

DISTINCTION OF THE '*NEOCHRYSIS*' GENERA
AND DESCRIPTION OF NEW SPECIES
(CHRYSIDIDAE, HYMENOPTERA)*

BY LYNN SIRI KIMSEY
Department of Entomology,
University of California,
Davis, CA 95616

The subgenera of *Neochrysis* comprise 4 distinct groups of species in the Chrysidinae (Chrysididae), which were discussed by Kimsey and Bohart (1980). Subsequent reevaluation of these subgenera indicates that they have sufficiently discrete diagnostic characteristics to justify their elevation to genera. *Ipsiura* is the most divergent group and is being elevated by Bohart (1985).

The relationships of these groups to other genera of Chrysidinae are obscure. Although they have been placed in the Euchroeini, based on the widely open marginal cell and long radial sector (Kimsey 1983), no sister group within this tribe is yet apparent and further study is necessary. However, these 4 taxa are closely related to each other, based on the characteristics given in table I, particularly those of the apical external sterna, RS vein and hindfemoral pit.

A number of abbreviations have been used, some of which are illustrated in fig. 1: T = gastral tergum, S = gastral sternum, F = flagellomere, MOD = midocellus diameter, LID = least interocular diameter.

In each list of included species an asterisk indicates that the type has not been seen.

Specimens have been borrowed from the following institutions: CURITIBA—Departamento de Zoologia, Universidad de Federal do Parana, Curitiba, Brazil; DAVIS—Bohart Museum of Entomology, University of California at Davis; MANHATTAN—Department of Entomology, Kansas State University, Manhattan; NEW YORK—Department of Entomology, American Museum of Natural History, New York; TUCUMAN—Instituto Miguel Lillo, Tucuman, Argentina, and WASHINGTON—Department of Entomology, U. S. National Museum, Washington, D. C.

*Manuscript received by the editor April 20, 1985

Key to the Genera Elevated from *Neochrysis*

- 1. Pronotum with sharp, protruding and nearly straight lateral carina (fig. 7); male S-IV large and usually metallic, two-thirds or more as long as S-III (fig. 12); female S-III longer than II (fig. 13); face with frontal carina extending up to and around midocellus *Ipsiura* Linsenmaier
 Pronotal carina absent or punctate and irregular (fig. 6), not protruding; male S-IV only exposed fringelike beyond S-III (fig. 10), except in 4 species of *Pleurochrysis*; female S-III variable in length; facial carina present or absent 2
- 2. Head with elongate fovea along genal carina (fig. 2), metanotal lobe digitate and protruding (fig. 4), propodeum with medial tooth; female S-III longer than II (fig. 11) . . . *Exochrysis* Bohart
 Head without genal fovea, metanotal lobe subtriangular, not protruding (fig. 5); propodeum without medial tooth, except *Pleurochrysis alfkeni*; female S-III subequal in length to II (fig. 9) 3
- 3. Hindfemur without basal pit; pronotal declivity with 2 deep submedial pits (fig. 3); T-III pit row pits large and deep and/or pit row depressed, often with prepit swelling (fig. 6).....
 *Pleurochrysis* Bohart
 Hindfemur with small circular or linear anterobasal pit; pronotal declivity without 2 deep submedial pits (rarely 2 pits apparently present); T-III pit row absent or only indicated by slight lateral depression or small pits, no prepit swelling (fig. 8)
 *Neochrysis* Linsenmaier

Exochrysis Bohart, N. Stat.

Exochrysis Bohart 1966: 141. Type: *Chrysis panamensis* Cameron 1888:464. Monobasic and orig. desig.

Discussion. The most distinctive features of *Exochrysis* species are the genal fovea, a long slender depression along the ventral side of the genal carina (fig. 2), and the shape of the lateral metanotal tooth, which is digitate and protrudes away from the propodeal tooth (fig. 4). In addition *Exochrysis* species have a distinctive basomedial tooth on the propodeum, which is only found in *Exochrysis* and one species of *Pleurochrysis*, *alfkeni*, and have a hindfemoral pit. All *Exochrysis* have four apical teeth on T-III. The black spots on S-II are sexually dimorphic, tending to be much smaller and farther apart in females.

Table I. Generic Characteristics of *Exochrysis*, *Ipsiura*, *Neochrysis* and *Pleurochrysis*.

Characteristic	<i>Exochrysis</i>	<i>Ipsiura</i>	<i>Neochrysis</i>	<i>Pleurochrysis</i>
Pronotal carina sharp and protruding	-	+	-	-
Male S-IV exposed	-	+	-	-
Male S-IV two-thirds or more as long as III*	-	+	-	+ -
Female S-III longer than II*	+	+	+	+
Head with genal fovea*	+	-	-	-
Metanotal lobe digitate and protruding*	+	-	-	-
Hindfemur with basal pit*	+	+	+	-
Pronotal declivity with 2 pits	-	-	-	+
Propodeum with medial tooth	+	-	-	+ -
T-III without depressed pit row	-	-	+	-
RS sigmoid, curving away from costal margin	+	+	+	+
T-I anterolateral corners sharp	+	+	-	+ -

*Characteristics unique to these genera.

Exochrysis is the sister group of *Ipsiura*. Both have a well-developed facial carina that extends up to the midocellus, T-I generally has sharp anterolateral corners and the female S-III is much longer than II. A number of *Exochrysis* species, including *imperfecta* and *leucostigma* have a well-developed pronotal carina, although it is not as highly modified and sharp as in *Ipsiura*.

Included Species: *alabamensis* (Mocsáry) 1914, *imperfecta* (Gribodo) 1879, *lemniscata* Kimsey new species, *leucostigma* (Mocsáry) 1889, *panamensis* (Cameron) 1888, *silvanus* Kimsey new species, *spinigera* (Spinola) 1838.

Key to the Species of *Exochrysis*

1. Scapal basin up to and including transverse frontal carina highly polished and impunctate except narrow band of minute punc-

- tures and sparse setae along ocular margin; propodeal medial projection longer than 1 MOD in dorsal view
- *imperfecta* (Gribodo)
- Scapal basin covered with dense small punctures and silver setae, with at most a narrow polished, impunctate stripe; propodeal medial projection usually 1 MOD long or shorter in dorsal view (may be longer in *spinigera*) 2
2. T-III without basolateral pale spot 3
- T-III with large whitish or transparent basolateral spot 4
3. Sternum II spots about as far apart as wide in females and twice or more as far apart in males *panamensis* (Cameron)
- Sternum II spots at least twice as far apart as wide in females, and as far apart in males *alabamensis* (Mocsáry)
4. Malar space longer than 1 MOD *silvanus* Kimsey
- Malar space equal to or, more usually, shorter than 1 MOD 5
5. T-III lateral margin between base and tooth strongly convex; S-II spots elongate ovoid in males, and 1.5 times or more as far apart as wide in females *lemniscata* Kimsey
- T-III lateral margin between base and tooth concave, straight or only slightly convex basally; S-II spots round in males and less than 1.5 times as far apart as wide 6
6. T-III pits deep and larger than adjacent punctures, except medial pair; pit row wide and exposed; prepit swelling microsculptured between pits *spinigera* (Spinola)
- T-III pits small, subequal in size to adjacent punctures, except medial pair; pit row obscured by prepit swelling; prepit swelling polished between punctures *leucostigma* (Mocsáry)

***Exochrysis lemniscata* Kimsey, new species**

(Fig. 10)

Holotype male. Body length 9 mm. Scapal basin with narrow impunctate polished medial stripe and dense fine punctures and silvery pubescence along ocular margin; frontal carina an exaggerated W shape, extending up to and nearly enclosing midocellus; malar space 0.7 MOD long; LID 1.3 times eye width; subantennal distance 1.0 MOD long; F-I length 2.1 times width; F-II 1.1 times; F-III as long as wide; F-V 0.6 times; pronotum without lateral carina, medially depressed; mesopleural carina with one posterior

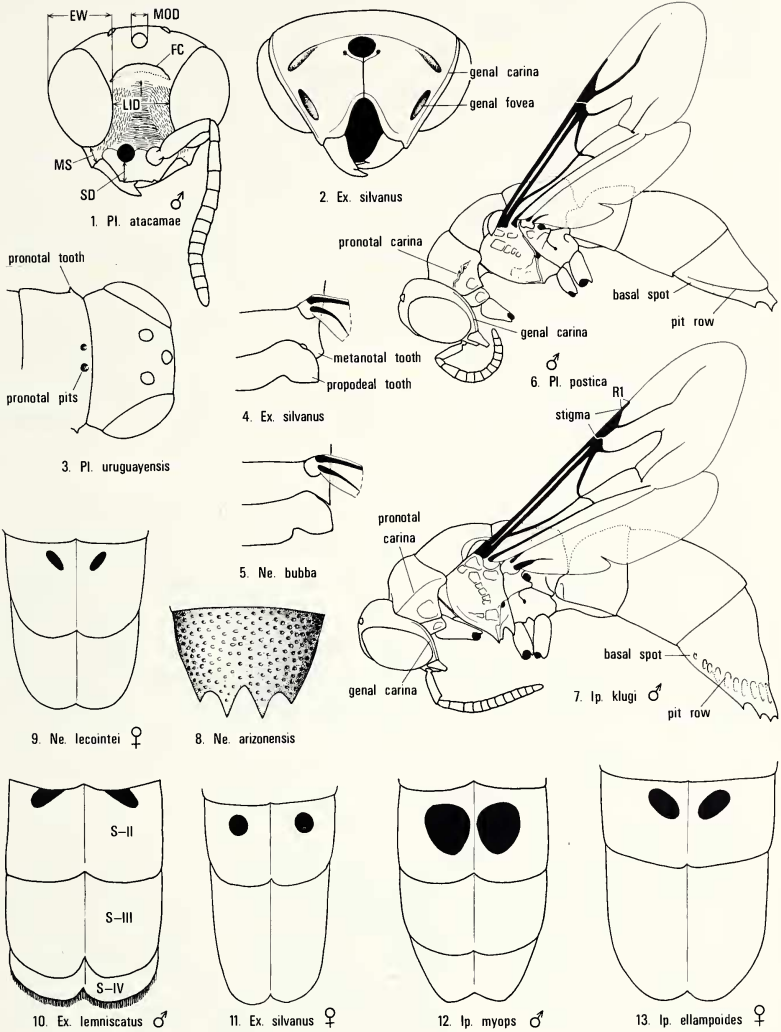


Fig. 1. Head, front view; eye width (EW), frontal carina (FC), least interocular distance (LID), midocellus diameter (MOD), malar space (MS), subantennal distance (SD). Fig. 2. Head, posterior view. Fig. 3. Head and pronotum, dorsal view. Figs. 4-5. Right side of metanotum and propodeum, dorsal view. Figs. 6-7. Body with legs removed, lateral view. Fig. 8. Tergum III, dorsal view. Figs. 9-13. Sterna II-III (females) and IV (males). Ex. = *Exochrysis*, Ip. = *Ipsiura*, Ne. = *Neochrysis*, and Pl. = *Pleurochrysis*.

and two ventral lobes or teeth; propodeal median tooth about 1 MOD long; R1 length about two-thirds stigmal length; T-I punctures about twice as large as on III, anterior corners sharp knoblike; T-III pit row sunken beneath prepit swelling, pits small and deep; S-II spots oblong and slender, about as far apart as long (fig. 10). Body generally blue green with purplish transverse stripes on T-I-III; propodeum purple, except lateral teeth; black on vertex, anterior face and medial and sublateral pronotal stripes, medial and sublateral scutal stripes, and scutellum anteromedially; T-II lateral edge transparent; T-III with large transparent basolateral spot.

Female. Same as male, except S-II spots about 1.5 times as far apart as wide.

Holotype male: BRAZIL: São Paulo, 1 January 1965, V. N. Alin (DAVIS). Paratype female: BRAZIL: Minas Gerais, Ibiraci, October 1961, C. Elias.

Discussion. The differences between *Exochrysis* species are often subtle, involving details on the pronotum and T-III, and the shape of the spots on S-II. *E. lemniscata* most closely resembles *panamensis* and *leucostigma* and all three are sympatric throughout much of their distributions. It can be distinguished from these species by the elongate spots on the male S-II and medium-sized, round ones in females (about 1.5 times as far apart as wide), and T-III with a white basolateral spot and small to tiny submedial pits.

***Exochrysis silvanus* Kimsey, new species**
(Figs. 2, 4, 11)

Holotype male: Body length 9 mm. Scapal basin with narrow impunctate polished stripe, laterally with dense fine punctures and silvery pubescence; frons without transverse carina but with two vertical carinae extending back to midocellus; malar space 0.9 MOD long; LID 0.9 times eye width; subantennal distance 0.7 MOD long; F-I 1.5 times as long as wide; F-II as long as wide; F-III 0.8 times; F-V 0.6 times; pronotum with lateral carina and depressed medially; mesopleuron with three knobs or teeth on posterior carina; metanotum not strongly spiculate, elevated medially; propodeal medial tooth small, 1 MOD long; R1 subequal to stigmal length; T-I punctures about twice the size of those on II and III; T-III lateral margin convex, pit row depressed, sunken beneath prepit swelling, and two large pits located submedially; S-II spots large, ovoid and

about twice as far apart as wide (fig. 11). Body greenish blue ventrally, becoming bluer laterally and purplish black dorsally, with black spots on vertex medially and sublaterally on pronotum and scutum, scutellum medially, transverse submedial stripe on T-I-II; T-III purple with whitish basolateral spot.

Female. Same as male except 1 specimen much greener.

Holotype male. COSTA RICA (DAVIS). Paratypes, two females: PANAMA: Zona del Canal, Barro Colorado Is., 5 September 1981; BRAZIL: Amapa, 24 October 1978.

Discussion. This species most closely resembles *leucostigma* and *alabamensis* based on the strongly flattened male flagellum, T-III with a transparent basolateral spot, the long malar space, and T-III with two large submedial pits. It can be distinguished by the indefinite transverse facial carina, presence of a pronotal carina, a small medial propodeal tooth, and convex lateral margin of T-III.

Ipsiura Linsenmaier

Ipsiura Linsenmaier 1959:74. (4 spp.). Type: *Chrysis marginalis* Brullé 1846. Orig. desig.

Discussion. *Ipsiura* is the most distinctive of these four taxa, and is being elevated to genus by Bohart (1985). The pronotal carina is so enlarged that the pronotum almost appears winged in some species. The gastral sterna are distinctive in both sexes. In males S-IV is large and visible externally; it is two-thirds or more as long as III (fig. 12), and is metallic colored. Female S-III is much longer than II (fig. 13). In males and often females the spots on S-II are large and only narrowly separated (fig. 12). Tergum III is also quite diagnostic; the pits are shallow and elongate or only indicated by long, vague depressions (fig. 7), and there are two to six apical teeth.

Included Species: *affinissima* (Ducke) 1903 NEW COMB., *bisulcata* (Ducke) 1902, *brevispina* (Ducke) 1911, *ellampoides* (Ducke) 1902, *friesiana* (Ducke) 1902, *genbergi* (Dahlbom) 1854*, *goeldi* (Ducke) 1907, *klugi* (Dahlbom) 1854, *leucobasis* (Mocsáry) 1889, *leucocheila* (Mocsáry) 1889, *leuchocheiloides* (Ducke) 1903, *longiventris* (Ducke) 1907, *marginalis* (Brullé) 1846, *myops* (Buysson) 1904, *neolateralis* (Bohart) 1963, *obidensis* (Ducke) 1903, *pilifrons* (Cameron) 1888.

See Bohart (1985) for a key to species and descriptions of new species.

Neochrysis Linsenmaier

Neochrysis Linsenmaier 1959:73. Type: *Chrysis punctatissima* Spinola 1840, nec Villers 1789 (= *Chrysis carina* Brullé 1846). Monobasic and orig. desig.

Discussion. *Neochrysis* and *Pleurochrysis* are closely related and may be difficult to separate. *Neochrysis* lacks a distinct pit row on T-III; pits may or may not be present but there is never a depression or prepit swelling, and it does have a hindfemoral pit. The spots on S-II are sexually dimorphic; in males they are large and narrowly separated (as in fig. 12), and in females these spots are small, often oblong and widely separated (fig. 9). In both genera the female S-III is subequal in length to S-II (fig. 9) and male S-IV protrudes only as a narrow fringe (fig. 10). All *Neochrysis* species have four apical teeth on T-III, except *jenseni*, with six to eight teeth.

Included Species: *argentina* (Brèthes) 1908 NEW COMB., *arizonensis* Kimsey 1982, *bubba* Kimsey new species, *cameroni* (Buysson) 1900, *carina* (Brullé) 1846, *confusa* (Ducke) 1911 NEW COMB., *deuteroleuca* (Mocsáry) 1912, *inseriata* (Mocsáry) 1902, *jenseni* (Buysson) 1906 NEW COMB., *lecointei* (Ducke) 1906, *montezuma* (Cameron) 1888, *paraensis* (Ducke) 1903, *tysis* Kimsey new species.

Key to the Species of *Neochrysis*

1. Metanotum with medial carina and strongly protruding medially in lateral view2
 Metanotum without medial carina and broadly rounded in lateral view3
2. T-III pit row indicated by broad impunctate stripe; S-II spots round in both sexes *cameroni* (Buysson)
 T-III pit row not indicated by impunctate stripe; S-II spots tiny and comma-shaped in males and linear in females
 *carina* (Brullé)
3. T-III with six or more apical teeth or angles
 *jenseni* (Buysson)
 T-III with four apical teeth or angles4
4. Pronotum, scutum and scutellum covered with transverse striae; anterior pronotal declivity with broad impunctate stripe
 *tysis* Kimsey
 Thoracic dorsum without transverse striae, anterior pronotal declivity without broad impunctate stripe5

5. R1 and stigmal lengths subequal6
 R1 two-thirds or less as long as stigma8
6. S-II spots large and round much closer together than wide in both sexes; frons with irregular boxlike transverse carina.
 *confusa* (Ducke)
 S-II spots absent or tiny and round, and much farther apart than wide; frons without transverse carina.....7
7. F-I less than twice as long as broad, T-III lateral margin between base and lateral tooth straight or only slightly convex
 *inseriata* (Mocsáry)
 F-I twice or more as long as wide, T-III lateral margin between base and lateral tooth strongly convex
 *montezuma* (Cameron)
8. T-III with large basolateral transparent amber or whitish spot9
 T-III without basolateral spot, although may have narrow translucent edge10
9. Male F-I and II with long ventral fringe of silvery setae; female S-II spots round and slightly farther apart than wide; T-III apical teeth long and pronglike, medial notch deeper than wide apically *arizonensis* Kimsey
 Male F-I and II without fringe; female S-II spots subtriangular and much closer than wide; T-III apical teeth short and broad, medial notch as broad or broader than deep
 *paraensis* (Ducke)
10. F-I twice or more as long as wide, large species 7–9 mm long.11
 F-I 1.5 times as long as wide or less, small species 5–6 mm long12
11. S-II spots large and teardrop-shaped, much closer together than wide in females; male unknown *bubba* Kimsey
 S-II spots small and ovoid, twice as far apart as wide in females, small and slightly ovoid and 5 or more times as far apart as wide in males *lecointei* (Ducke)
12. Frons with irregular transverse carina and 2 or more irregular carinae extending from it toward vertex... *argentina* (Brèthes)
 Frons without carinae *deuteroleuca* (Mocsáry)

***Neochrysis bubba* Kimsey, new species**
(Fig. 5)

Holotype female. Body length 10 mm. Scapal basin shallow with narrow impunctate and polished medial stripe, laterally with dense small punctures and silver pubescence; no frontal carina; malar space 0.6 MOD long; LID 0.7 times eye width; subantennal distance 0.7 MOD long; F-I 2.4 times as long as wide; F-II 1.1 times; F-III 0.8 times; F-V 0.7 times as long as wide; gena between ocular margin and carina polished and impunctate; mesopleuron rounded ventrally, carina without posterior teeth or lobes, punctures 0.5-1 puncture diameter apart with tiny punctures between; metanotum evenly rounded; propodeum flat and vertical in lateral view; costal length beyond stigma subequal to stigmal length; S-II spots large and ovoid, barely separated medially; T-I punctures larger than those on scutum and T-II, which are subequal; T-III lateral margin slightly convex, pit row faintly depressed laterally with small deep pits about as large as adjacent punctures, without transparent basolateral spot or edge. Body bluish green ventrally becoming bluer laterally and darker dorsally, blackish dorsomedially.

Male. Unknown.

Holotype female: BRAZIL: Santa Catarina, Nova Teutonia, February 1974, F. Plaumann (DAVIS). Paratypes, one male, one female: BRAZIL: Parana, Curitiba, 19 January 1968, A. Sakakibara (one male); BRAZIL: Parana, Piraquara, 13 January 1968, Moure and Laroca (one female).

Discussion. The most distinctive feature of *bubba* is the large spots on S-II, which serves to immediately distinguish this species from the two it most closely resembles, *lecointei* and *montezuma*. *N. bubba* can be distinguished from other *Neochrysis* species by having no frontal carina, either transverse or vertical; no white spots on T-III, and an evenly rounded metanotum.

***Neochrysis tysis* Kimsey, new species**

Holotype female. Body length 7 mm. Scapal basin shallow with narrow impunctate and polished medial stripe, laterally with dense small punctures and silver pubescence; no frontal carina; malar space 0.4 MOD Long; LID 1.1 times eye width; subantennal distance 0.6 MOD long; F-I 1.4 times as long as wide; F-II and III 1.1 times;

F-IV 0.6 times; gena polished and impunctate for most of area between ocular margin and carina; pronotal anterior face with broad, polished and impunctate stripe, with lateral pronotal carina; dorsum of head and thorax strongly striate, punctures flattened and striatiform; mesopleuron relatively rounded ventrally, carina without teeth or lobes, punctures separated by 0.5–1.0 puncture diameter; metanotum evenly rounded; propodeum flat and vertical in lateral view; R1 slightly shorter than stigma; S-II spots large and ovoid, barely separated medially; abdominal punctures flattened and oblong; T-III pit row only indicated by faint lateral depression, lateral margin slightly convex basally. Body bluish green, becoming purplish on T-III, T-III with large whitish transparent basolateral spot.

Male. Unknown.

Holotype female: VENEZUELA: Aragua, Ocumare de la Costa, 12 June 1976, Menke and Vincent (WASHINGTON). Paratype female: COLOMBIA: Antioquia, Medellin, May 1982, I. D. Correa (DAVIS).

Discussion. *N. tysis* can be distinguished from other *Neochrysis* by the impunctate stripe on the pronotum, striatiform dorsum and lack of a projection on the metanotum. This species most closely resembles *paraensis* based on the shape and coloration of T-III, the evenly rounded metanotum and the pronotal carina.

Pleurochrysis Bohart

Pleurocera Guérin 1842:355. Nec Rafinesque 1818. Type: *Pleurocera viridis* Guérin 1842 (= *Chrysis bruchi* Brèthes 1903).

Pleurochrysis Bohart 1966:144. N. name for *Pleurocera* Guérin 1842.

Discussion. *Pleurochrysis* contains a relatively heterogeneous group of species characterized by their lack of derived characteristics. The two features diagnostic for *Pleurochrysis* are the presence of 2 pits on the anterior face of the pronotum (fig. 3), and the lack of an anterobasal pit on the hindfemur. Unfortunately, the presence of pronotal pits is not a characteristic unique to *Pleurochrysis* and rare individuals of *Neochrysis* may have these pits as well. *Pleurochrysis* may be paraphyletic but the species it contains are clearly related; further study is needed.

Pleurochrysis species vary in a number of characteristics: The frontal carina is present or absent and may even enclose the mido-

cellus in *fasciifera* and *leucophris*. The pronotum has an irregular lateral carina in *postica* and *alfkeni* but not in the other species. One species, *alfkeni*, has a medial propodeal tooth, which is particularly well-developed in some individuals. S-IV is generally narrow and fringelike in male *Pleurochrysis* (as in fig. 10), except in *cavifrons*, *bruchi*, *leucophris* and *uruguayensis*, where it is large and usually metallic green as in *Ipsiura* (fig. 12). A few species have a metanotal projection. Two characteristics are unique in this genus, but unfortunately do not occur in all species. The first is the presence of a small lateral tooth on the pronotum as seen in dorsal view (fig. 3). Second, a number of males have highly modified antennae. The most extreme case can be seen in *bruchi* where the flagellomeres are strongly flattened and flabellate. Typically, though, the male flagellum is yellowish and somewhat flattened. Finally, there is little sexual dimorphism in the spots on sternum II, in most species these spots are round and about as far apart as wide in both sexes. Only one species, *bruchi*, has six apical teeth on T-III, the rest have four.

Included Species: *acuta* (Brèthes) 1908, *alfkeni* (Ducke) 1902*, *ameghinoi* (Brèthes) 1903, *ancilla* (Buysson) 1898, *atacamae* Kimsey new species, *bruchi* (Brèthes) 1902, *cavifrons* (Brullé) 1846, *charruana* (Brèthes) 1903, *chilicola* (Mocsáry) 1914, *fasciifera* (Bischoff) 1910, *imbecilla* (Mocsáry) 1889 NEW COMB., *lagopus* (Buysson) 1891 NEW COMB., *leucophris* (Mocsáry) 1889 NEW COMB., *lynchi* (Brèthes) 1903, *postica* (Brullé) 1846, *simulator* Kimsey new species, *sur* Kimsey new species, *uruguayensis* Kimsey 1985 new species, *ypirangensis* (Buysson) 1904.

Key to the Species of *Pleurochrysis*

1. T-III with six apical teeth, male flagellum unusually flattened and basal segments flabellate *bruchi* (Brèthes)
T-III with four apical teeth, male flagellum variously shaped but not flabellate 2
2. Pronotum with lateral tooth 3
Pronotum without lateral tooth 8
3. T-III pre-pit swelling large usually obscuring pits, LID 0.6 times eye width, R1 0.2–0.3 times stigmal length . . . *alfkeni* (Ducke)
T-III pre-pit swelling usually small or absent but never obscuring pits, pits large and clearly defined; LID 0.8 times eye width or wider; R1 0.9 or more times as long as stigmal length 4

4. Metanotum with large medial projection
 *imbecilla* (Mocsáry)
 Metanotum without medial projection 5
5. Malar space longer than 1 MOD *cavifrons* (Brullé)
 Malar space less than or equal to 1 MOD in length 6
6. Scapal basin with polished and impunctate medial stripe as
 wide or wider than lateral finely punctate area
 *acuta* (Brèthes)
 Scapal basin without impunctate medial stripe or stripe much
 narrower than width of lateral finely punctate area
 *uruguayensis* Kimsey, new species
7. Scapal basin with fine transverse cross-ridging 8
 Scapal basin without cross-ridging 9
8. T-III lateral edge concave between lateral tooth and base, male
 flagellum yellow *atacamae* Kimsey, new species
 T-III lateral edge slightly to strongly convex, male flagellum
 brown *chilicola* (Mocsáry)
9. T-II lateral edge transparent, T-III basolateral margin transpar-
 ent or with large basolateral whitish, amber or transparent spot
 10
 T-II and III without lateral transparent, amber or whitish spot
 or edge 13
10. T-III pit row obscured by pre-pit swelling, pits barely visible as
 small flattened ovals 11
 T-III pit row broad and well-developed, pits large and round or
 oval, not obscured by pre-pit swelling 12
11. Malar space less than 1 MOD long, T-III narrow and tapering
 apically in dorsal view including rim, face without transverse
 frontal carina *postica* (Brullé)
 Malar space more than 1 MOD long, T-III broad and rim
 flared apically in dorsal view, face with traces of transverse
 frontal carina *ypirangensis* (Buysson)
12. Face with strong carina enclosing midocellus, metanotum with
 large medial projection, T-III medial pits subequal to sublateral
 ones *leucophris* (Mocsáry)
 Face without carina enclosing midocellus, metanotum without
 large medial projection, T-III medial pits much larger than sub-
 lateral ones *charruana* (Brèthes)
13. Subantennal distance at least 1.4–1.5 MOD long 14
 Subantennal distance not more than 1 MOD long; S-II spots as

- far apart as wide, except closer in female *simulator* 15
14. S-II spots 0.5 or less as far apart as wide, T-III margin between lateral tooth and base strongly convex *lynchi* (Brèthes)
S-II spots as far apart as wide or further apart, T-III margin between lateral tooth and base nearly straight or only slightly convex *lagopus* (Buysson)
15. Face without clearly defined carinae on brow 16
Face with clearly defined transverse, and in *simulator*, vertical carinae on brow 17
16. Malar space less than 0.5 MOD long and shorter than subantennal distance; male flagellum yellowish and broadly flattened, F-II as long as wide; male basitarsus dilated
. *ameghinoi* (Brèthes)
Malar space and subantennal distance equal and both more than 0.5 MOD long; male flagellum reddish brown and cylindrical, F-II length 1.3 times width; male basitarsus unmodified *fasciifera* (Bischoff)
17. Transverse frontal carina with 2 carinulae extending back around midocellus, male flagellum cylindrical and blackish *simulator* Kimsey
Transverse frontal carina linear or an inverted C-shape, without carinulae extending back toward midocellus; male flagellum flattened and yellowish 18
18. T-III lateral margin concave, with a basal angle; male LID narrower than eye width *sur* Kimsey
T-III lateral margin straight or somewhat convex, male LID as wide as or wider than eye width *ancilla* (Buysson)

***Pleurochrysis atacamae* Kimsey, new species**

(Fig. 1).

Holotype male. Body length 6.5 mm. Scapal basin with dense fine transverse ridges (fig. 1), outer two-fifths with dense silvery setae; brow with strong transverse carina; malar space 1 MOD long; least interocular distance 0.8 times eye width; subantennal distance 1.5 MOD long; F-I 2.4 times as long as wide; F-II 1.5 times; F-III and V as long as wide; pronotum rounded, without medial projection; R1 as long as stigma; S-II spots small and circular, about as far apart as wide; Abdominal segments coarsely punctate, punctures as large as those on thorax and nearly touching; T-II with low impunctate

medial welt extending about two-thirds of length; T-III with strong medial carina extending through pit row, pit row only slightly depressed, pits subequal in size to punctures but deeper, apical teeth clustered medially. Head blue, except face greenish blue; thorax purplish blue, abdomen greenish blue; scape, pedicel, F-I and part of F-II blue, rest of flagellum yellowish red except apical segment brown.

Female. Body length 6–7 mm. Same as male, except scapal basin without silvery setae; antenna blackish; F-I 2.2 times as long as wide; F-II length 1.7 times width; F-III 1.4 times as long as wide, and T-V with fine apical ridges.

Holotype male: CHILE, Atacama Prov., 40–60 km s Copaiipo, 18–20 October 1969, L. E. Peña (DAVIS). Paratypes, five males, two females: CHILE, Atacama Prov.: two males, one female: same data as type; one male, one female: 26 mi s Copaiipo, 19 October 1969; one male: 14 km s Vallenar, 13 October 1969; Canto del Agua, 21 October 1969; one male: La Junta, 15 October 1969.

Discussion. Although very closely related to *chilicola*, *atacamae* differs in the strongly convex lateral margin of T-III and the yellowish male flagellum. Both species have a finely cross-ridged scapal basin, a characteristic not found in other *Pleurochrysis*.

***Pleurochrysis simulator* Kimsey, new species**

Holotype male. Body length 6 mm. Scapal basin almost completely clothed in silvery setae, somewhat sparser medially; brow with strong transverse carina; malar space and subantennal distance 1 MOD long; LID equal to eye width; F-I 1.8 times as long as wide; F-II 1.5 times. F-III as long as wide; F-V 0.8 times width; pronotum without lateral tooth or carina; metanotum rounded; propodeum slightly projecting basomedially; R I two-thirds stigmal length; S-II spots elongate, about as far apart as wide; T-II with irregular medial welt, without translucent edge; T-III without basal spot, prepit row swelling slight, pit row slightly sunken, pits large and deep. Body green, with purple on vertex, tegulae, along notauli, T-I and III basally, and II basally and subapically; flagellum only slightly paler than scape.

Female. Body length 4.5–6.0 mm. Same as male except scapal basin with wider impunctate medial stripe.

Holotype male: BRAZIL: Bahia, Vitoria da Conquista, 25–27

May 1961, F. M. Oliveira (DAVIS). Paratypes, six males, seven females: VENEZUELA: Zulia, 6 km w La Concepcion, 18 June 1976 (one female, one male); BOLIVIA (one female); ARGENTINA: Buenos Aires: Moreno (one male); Misiones: Puerto Iguazu, 3 March 1945 (one male); Salta: n Cafayate, Yacochuya, 2 December 1970 (one male); Santiago del Estero: Termas de Rio Hondo, 28 May 1972 (one male); Catamarca: 6 km n Belen, 1-15 December 1968 (one female); Entre Rios: Feliciano (one female); La Rioja (one female); Rio Negro: Lamarque (one female); BRAZIL: Paraiba: Joazeirinho, 28 October 1955 (one female).

Discussion. *Pleurochrysis fasciifera* and *simulator* are quite close structurally; both have similar facial and antennal dimensions and lack a pronotal tooth or carina and whitish basolateral spot on T-III. *P. simulator* can be distinguished from *fasciifera* by the cylindrical brown male flagellum, male scapal basin with a broad medial impunctate stripe, and the presence of a strong transverse facial carina in both sexes. This carina in *simulator* is either single, particularly in females, or a rough, elevated, rectangular structure. In addition, individuals of *simulator* tend to be greener than those of *fasciifera*.

***Pleurochrysis sur* Kimsey, new species**

Holotype male. Body length 6 mm. Scapal basin narrow, with broad zone of fine dense punctures and dense silvery setae along ocular margins and subtriangular impunctate and polished medial zone; brow protruding with strong transverse carina; malar space 0.6 MOD long; least interocular distance 0.7 times eye width; subantennal distance 0.7 MOD long; flagellum somewhat flattened: F-I 1.4 times as long as wide; F-II 1.1 times; F-III 0.8 times; F-V 0.7 times as long; pronotum without anterolateral tooth or lateral carina; metanotum and propodeum evenly rounded; R1 subequal to stigmal length; S-II spots round, about as far apart as wide; abdominal punctures about as large as those on thorax; T-III with large prepit row swelling, lateral margin strongly convex, pit row pits large and deep. Body greenish blue, becoming purplish dorsally and black on middle of metanotum and propodeum, anterior margin of T-II and III and in submedial transverse band on T-II; tarsi yellowish; flagellomeres yellow with brown lateral edges; T-III without transparent or whitish lateral rim or basolateral spot.

Female. Body length 6–7 mm. Similar to male except least interocular distance 1.2 times eye width, F-I twice as long as wide, F-II 1.6 times, F-III and V as long as wide, and body green with purplish markings.

Holotype male: ARGENTINA: La Rioja, C. S. Reed (SAN FRANCISCO). Paratypes, two males, three females: ARGENTINA: La Rioja, E. Giacomelli (one female); Icaña, E. R. Wagner (one male, one female); Santiago del Estero, Rio Salado, Icana (one female); Tucuman, Leales los Gomez, 28 March 1948 (one female).

Discussion: Most closely resembling *ancilla, sur* can be distinguished by the narrower scapal basin in the male, narrower subantennal distance and malar space, very deep pit row with very large deep pits, a large prepit swelling, and the lateral margin of T-III concave. This species can be distinguished from other species of *Pleurochrysis* by the lack of a pronotal, metanotal or medial propodeal tooth, no transverse facial carina and no transparent or whitish edge or spot on T-III.

***Pleurochrysis uruguayensis* Kimsey, new species**
(Fig. 3)

Holotype male. Body length 5 mm. Scapal basin densely clothed with silver setae; brow without transverse carina; malar space 0.5 MOD long; least interocular distance 0.7 times eye width; subantennal distance 0.6 MOD long; F-I 2.3 times as long as wide; F-II slightly longer than wide; F-III as long as wide; F-V 0.8 times width; pronotum with small lateral tooth (fig. 3) and no lateral carina; metanotum pointed and strongly projecting medially; R1 as long as stigma; tarsi yellowish; S-II spots round and slightly less far apart than wide; T-II and III with vague, impunctate medial stripe; T-III pit row slightly sunken, no prepit row swelling, pits large and deep. Body bluish green, flagellum blackish.

Female. Body length 5.0–5.5 mm. Same as male except scapal basin with wider polished medial stripe, about one-fifth area, and T-I with fine apical ridges.

Holotype male: URUGUAY: Dept. Rio Negro, 15 km s Paysandu, 27 December 1962 to 6 January 1963, R. G. Van Gelder (NEW YORK). Paratypes, one male and three females: same data as type.

Discussion. *P. uruguayensis* is a small species with a well-developed pronotal tooth, no transverse facial carina, an elevated

and acute metanotum, yellowish tarsi, and no basolateral spot on T-III. This combination of characteristics distinguishes *uruguayensis* from other species of *Pleurochrysis*.

SUMMARY

The remaining 2 subgenera of *Neochrysis* Linsenmaier, *Pleurochrysis* and *Exochrysis*, are elevated to genus. A key to these 2 taxa plus *Neochrysis* and *Ipsiura* is provided as well as diagnostic characteristics and a list of and keys to included species for each. In addition 2 new species of *Exochrysis*, *lemniscatus* and *silvanus*, 2 new *Neochrysis*, *bubba* and *tysis*, and 4 new *Pleurochrysis*, *atacamae*, *simulator*, *sur* and *uruguayensis* are described.

ACKNOWLEDGMENT

This study was supported by NSF grant no. BSR 84-07392.

LITERATURE CITED

- BOHART, R. M. 1985. New *Ipsiura* and a key to known species of the genus. J. Kansas Ent. Soc. In press.
- KIMSEY, L. S. 1983. Review of the euchroeine chrysidids. Pan-Pac. Ent. 59:140-147.
- _____ and R. M. BOHART. 1980. A synopsis of the chrysidid genera of neotropical America. Psyche 87:75-92.